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November 28, 2007

Ms. Amy M. Bennett
Standards Coordinator
SCDHEC – Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201

Subject: SC Water Classifications and Standards (R.61-68)
Comments to Notice of Proposed Regulation

Dear Ms. Bennett:

SCANA, and its subsidiaries, is hereby submitting comments in response to the October 26, 2007, notice of proposed regulation for South Carolina's *Water Classifications and Standards (R.61-68)* regulation. SCANA appreciates the opportunity to participate in the triennial review process and hopes that the following information will assist the Department in developing a regulation that protects the environment yet is not economically detrimental to the people of South Carolina. In that regard, SCANA believes that certain existing standards are more stringent than necessary to adequately protect human health and the indigenous biological community of the state's surface waters. Although the following comments have been either transmitted to or discussed with the Department during previous stakeholder meetings, SCANA believes that the following comments should receive additional consideration.

ADOPTION OF EPA WATER QUALITY CRITERIA

During previous correspondence, SCANA and other stakeholders requested that the Department review any new or revised EPA criteria to determine their applicability to South Carolina rather than simply adopting them. This review should encompass all the national recommended water quality criteria for the protection of human health posted in the Federal Register on December 31, 2003. As demonstrated by the Department's modification of the arsenic criteria, there are many variables and assumptions that the EPA uses to calculate recommended water quality criteria, and many of those factors may not be applicable to South Carolina or are overly conservative. SCANA believes that certain standards are currently promulgated at levels more stringent than necessary to adequately protect human health and the indigenous biological community of the state's surface waters. As shown below, SCANA has objection to the direct adoption of the thallium standard, and requests, as required by Sections R.61-68.E.14.a(5) and E.14.b(2), that the Department perform a similar analysis of the other federal criteria prior to incorporation into state regulation.

Revision of the proposed South Carolina water quality standard for thallium

SCDHEC is proposing to adopt the recommended values of 0.24 µg/L (W/O) and 0.47 µg/L (Org. Only) which were posted in the Federal Register on December 31, 2003. With regard to the human health-based water quality standards for thallium in other EPA Region 4 states, most are either the same as those currently in effect in South Carolina (W/O – 1.7 µg/L and Org. Only – 6.3 µg/L) or do not exist. Georgia's standards, for example, do not include a W/O thallium standard, while North Carolina's and Mississippi's standards contain neither a W/O standard nor an Org. Only standard for thallium. Based on the requirements of other Region 4 states, the Department should consider whether or not revised thallium standards are necessary.

After conducting a thorough literature search and investigating the derivation of the proposed standards, SCANA has concluded that the application of these criteria to South Carolina waters is not consistent with the conditions used to derive them. Several factors are utilized in the development of water quality criteria, and their derivation is based on conservative estimates of the risk to human health. These risk factors include the Reference Dose (RfD), the Relative Source Contribution (RSC), the Fish Ingestion Rate (FIR), the Bioconcentration Factor (BCF), and others. Prior to adopting any new criterion, SCDHEC should review each of these factors to ensure that they are appropriate for South Carolina and are not overly conservative. Several of the factors used during the derivation of the proposed thallium standards are overly conservative, and one factor that is inappropriate for South Carolina freshwaters is the BCF.

The BCF used to derive the proposed thallium standards of 0.24 µg/L (W/O) and 0.47 µg/L (Org. Only) is a value of 116 liters/kilogram (L/kg). As detailed in the document titled, "Ambient Water Quality Criteria for Thallium" (EPA 440/5-80-074) and dated October 1980, this value was derived using three species (Atlantic salmon, softshell clam, and blue mussel) with BCFs of 130, 18, and 12 L/kg respectively. A BCF of 34 L/kg was mentioned for bluegill (which are resident in South Carolina), but this species was not used in the 116 L/kg BCF derivation calculation. Of the three species used, only the softshell clam is present in South Carolina. Therefore, rather than use a weighted average (based on the associated ingestion rates) of 116 L/kg, a BCF of 18 L/kg appears to be more appropriate for South Carolina. Making this one change, for example, would result in an Org. Only standard of 3.02 µg/L, and if only the softshell clam BCF were used, a lower fish ingestion rate may be more appropriate. Further review of each factor used to derive the proposed standards for their applicability in South Carolina is warranted.

Summary

In summary, SCDHEC should not adopt any federally recommended water quality standards without a detailed review of its derivation and applicability to South Carolina surface waters. In fact, this is required by Sections E.14.a(5) and E.14.b(2) of R.61-68. Without this technical review and a human health/environmental impact assessment, the Department might adopt overly conservative standards that result in unwarranted economic impacts, placing South Carolina business and industry at a competitive disadvantage compared to other states.

Specifically with regard to thallium, and noting also that the SC drinking water standard for thallium is 2 µg/L, SCANA requests that SCDHEC review the need for a W/O standard for thallium as well as the derivation of the Org. Only standard and document the rationale for inclusion as a standard in R.61-68. If the Department does not currently have the time or resources to perform a thorough review of the applicability of this standard for South Carolina, SCANA requests that the current thallium water quality standard remain unchanged until more relevant state or regional scientific studies can be performed and ongoing national research can be completed and properly evaluated.

SOURCE WATER PROTECTION

During the stakeholder meetings, there a great deal of discussion concerning source water protection and the implementation of the current associated sections of R.61-68 as they relate to NPDES permitting. At the conclusion of those discussions, the Department determined that changes to R.61-68 with regard to source water protection would not be made during this triennial review but that the Department would continue an open dialogue regarding the associated permitting policies that affect NPDES permit limitations. While SCANA looks forward to a continued open dialogue with SCDHEC on this topic, we feel that it is important to document the regulatory changes that we believe could potentially resolve these issues.

Introduction

Although there are only a few sections of R.61-68 that relate to source water protection and those sections have not been modified since the 2001 triennial review, it is only since the Department's policies were initiated regarding implementation of the associated regulations into NPDES permit conditions that their true cost impact to regulated entities has been realized. The cost impact to regulated entities can run in the millions of dollars due to wastewater treatment system modifications necessary to meet limits derived through application of the Department's current source water protection policy. Section E.14.c.(5) of the regulation creates inconsistencies between the Department's source water protection program/plan and the NPDES permitting policies/procedures. It states:

The Department may, after Notice of Intent included in a notice of a proposed NPDES permit in accordance with Regulation 61-9.124.10, determine that drinking water MCLs or W/O shall not apply to discharges to those waterbodies where there is: **no potential to affect** an existing or proposed drinking water source and no state-approved source water protection area.

The Department has adopted an extremely conservative position with regard to the "potential to affect" source water protection areas (SWPA's), and this policy significantly increases the cost for compliance by requiring NPDES permitted dischargers to comply with unnecessarily stringent NPDES permit limitations.

SCDHEC applies the water/organism (W/O) human health-based water quality criteria and Maximum Contaminant Levels (MCLs) when there is a potable water intake "downstream." In several cases, these criteria and associated NPDES permit limits are

considerably more stringent than those based on the consumption of organisms only (human health-based) or those based on aquatic life criteria. In many cases, the application of these W/O values in the calculation of water quality-based limits results in end-of-pipe NPDES permit limits that are more restrictive than the respective drinking water MCL for a particular parameter, even when dilution credits are allowed.

South Carolina's designated use of freshwater is "as a source for drinking water supply after conventional treatment." Accordingly, SCDHEC's current source water protection policy is unreasonably conservative. If SCDHEC calculated NPDES permitted discharge limits such that MCLs would be met at the intake point of the municipal water intake downstream of the NPDES discharge, this would still provide for a level of protection of human health even more conservative than required by SCDHEC's designated use of freshwater.

Background

The 1996 Amendments to the federal Safe Drinking Water Act (SDWA) provide for a greater focus on pollution prevention as an approach to protecting surface water and groundwater supplies from pollution. The amendments require SCDHEC to provide Source Water Assessments for federally defined public water supply systems. The US EPA approved South Carolina's *Source Water Assessment and Protection Program Plan* on November 6, 1999. This plan includes detailed procedures addressing how the state will evaluate the susceptibility of potable water intakes to upstream risk.

Protecting potable water intakes from upstream NPDES dischargers is necessary to ensure the potable water treatment plants can achieve their "outgoing" MCLs and protect human health during consumption. Factors used in prioritizing susceptibility of the intake are the distance of the associated "risks" upstream from the intake and the mass loading of a particular pollutant. Potential upstream "risks" include various operations associated with industrial, commercial, agricultural, municipal, residential, and rural sources. Risk types can vary from emergency/high risk events (such as chemical spills), to intermittent sources/medium risk (such as storm water runoff), to continuous sources/low risk (such as wastewater discharges). Based on the upstream travel time distance, SWPA's are developed. The designation of the primary and secondary SWPA's are based upon hydraulic time of travel (TOT) calculations performed by the U.S. Geological Survey (USGS) using the procedure described in the document entitled, "Determination of the Primary and Secondary Source-Water Protection Areas for Selected Surface-Water Public-Supply Systems in South Carolina, 1999," USGS Water Resource Investigations Report 00-4097.

Since developing the source water protection plan, the Department's approach to protecting potable water intakes and controlling the risk (potential to affect) when developing NPDES permit limitations has evolved into a more conservative approach than that used only a few years ago. Initially these limits were based on the permit writers' best professional judgment and then the Department's selection of an arbitrary value of 50 river miles upstream. Now the Department insists that to protect the drinking water intake the discharge cannot impact any part of the SWPA. The source water protection plan was developed to protect the drinking water source intake; however, the

Department insists that the SWPA is what needs to be protected and has implemented a program with overly conservative assumptions irrespective of analytical data that may clearly demonstrate that there is no potential risk to downstream drinking water intakes.

R.61-68.G.10 states that "Freshwaters (FW) are freshwaters suitable for primary and secondary contact recreation and as a source for drinking water supply after conventional treatment in accordance with the requirements of the Department." SCANA believes that a permittee should be able to demonstrate, through the use of scientific methods (e.g. instream sampling and/or modeling) acceptable to the Department, that there is no reasonable potential for the water body to exceed the W/O criteria or MCLs at the intake. Historically the Department has afforded the regulated community only a rigid application of the SWPA. This includes NPDES discharges within or upstream of SWPA's.

The Department has indicated that it will not allow modeling, instream sampling, or some other scientific proof that physical and biological instream processes reduce the concentrations to levels where there is no potential for the NPDES discharged parameters to impact water quality at downstream intakes. W/O and MCL's should not automatically be applied to discharges in SWPA's if the permittee proves by scientific means that there is no potential to affect water quality at a downstream drinking water intake(s).

The Department's conservative permitting policy regarding Section E.14.c(5) requires the application of W/O and MCLs in NPDES permits regardless of the upstream distance/travel time. Based on this premise, the Department will always determine that there is a reasonable potential to affect a downstream potable water intake. In other words, an NPDES discharger in the upstate could have the potential to impact a drinking water intake in the low country (assuming that was the nearest downstream potable water intake).

R.61-68 Requested Changes

There is only one section within the proposed amendment of R.61-68 that pertains to the application of NPDES permit limitations within/upstream of a SWPA, and the recommended changes are shown using highlighted text for additional language and ~~strikeout text~~ for removed language. SCANA recommends that the Department consider adopting the language offered below.

Section E.14.c(5) of the regulation should be modified as shown:

Except as provided herein, where application of MCLs or W/O numeric criteria using annual average flow for carcinogens, 7Q10 (or 30Q5 if provided by the applicant) for noncarcinogens, or comparable tidal condition as determined by the Department results in permit effluent limitations more stringent than limitations derived from other applicable human health (organism consumption only), aquatic life, or organoleptic numeric values; MCLs or W/O shall be used in establishing permit effluent limitations for human health protection. The permit limitations shall be derived using the instream flow rate at the potable water intake point and with the

expectation that the permittee will meet MCLs or W/O criteria at the point of the potable water intake. The Department may, after Notice of Intent included in a notice of a proposed NPDES permit in accordance with Regulation 61-9.124.10, determine that drinking water MCLs or W/O shall not apply to discharges to those waterbodies where there is: no potential to affect an existing or proposed drinking water intakesource and no state-approved source water protection area. For purposes of this section, a discharger's potential to affect a drinking water intake, or lack thereof, shall be determined using the source water protection boundary generated by the 24-hour time of travel distance from the intake for the fifty (50) percent exceedance flows (i.e., TOT50 location). If the discharge is outside this boundary, these MCL and W/O criteria do not apply. Additionally, if the discharge is inside this boundary, the discharger may demonstrate using actual instream measurements (using a state-approved sampling method, analytical method, and practical quantitation limit for each substance) or hydraulic/water quality modeling/calculations, for a single or multiple water quality criteria, that there is no potential to affect the drinking water intake and therefore that the criteria do not apply. For purposes of this section, a proposed drinking water intakesource is one for which a complete permit application, including plans and specifications for the intake, is on file with the Department at the time of consideration of an NPDES permit application for a discharge that will affect or has the potential to affect the drinking water source.

Summary

Unnecessarily stringent NPDES permit discharge limits are resulting from the Department's current application of its source water protection program to the NPDES permits of regulated entities. Unnecessarily stringent limits are unwarranted if there is no demonstrated and significantly added level of protection of human health or the environment associated with these limits. NPDES permit limits that are overly protective of human health and the environment result in cost impacts to regulated entities that run into the millions of dollars in operational modification expenditures. This added cost is not justified nor is it sensible if there is no demonstrated increase in protection to human health or the environment associated with the Department's application of the source water protection policy. SCANA therefore presents these comments in order to initiate a discussion with the Department that will lead to modification of R.61-68 during the next triennial review.

RESTRICTION OF INSTREAM DILUTION

SC Regulation 61-9, *Water Pollution Control Permits*, contains a requirement that SCANA believes should be addressed through R.61-68 and more clearly defined in the associated permitting procedures. Many rivers in South Carolina are listed as impaired water bodies for the consumption of fish tissue due to methylmercury, even though the instream mercury concentration is not higher than the most restrictive stream standard. Whether the impairment is due to mercury, iron, or another parameter, SCANA does not agree, as mentioned in permit rationales, that section 122.44(d)(1)(ii) of R.61-9 is applicable to restrict the use of dilution flow when evaluating the reasonable potential for the discharge to result in an exceedance of the stream standards. With regard to establishing limitations, standards, and other permit conditions, that part of R.61-9 states,

(d) Water quality standards and State requirements: Any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, and 318, and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

Due to the cost associated with compliance with unnecessarily stringent NPDES permit limitations, SCANA recommends that Sections C.4.(a)(2) and C.4.(b)(2) be modified as shown by highlighted text to clarify that the application of dilution flow should only be restricted when required by an associated TMDL. Since the language in R.61-9 does not specifically restrict dilution flow when deriving water quality-based permit limitations, SCANA believes that no modification of that regulation is necessary.

C.4.(a)(2) Except for impaired water bodies addressed within TMDLs, tThe Department shall consider conditions that are comparable to or more stringent than 7Q10 where appropriate to protect classified and existing uses, such as below dams and in tidal situations. Only those situations where the use of 7Q10 flows are determined to be impracticable, inappropriate, or insufficiently protective of aquatic life uses shall be considered as a situation in which the Department may consider other flow conditions.

C.4.(b)(2) Except for impaired water bodies addressed within TMDLs, tThe Department shall consider conditions that are comparable to or more stringent than annual average flow, 7Q10, or 30Q5 (if provided by the applicant) where appropriate to protect the classified and existing uses, such as below dams and in tidal situations. Only those situations where the use of annual average flow, or 7Q10, or 30Q5 (if provided by the applicant) are determined to be impracticable, inappropriate, or insufficiently protective of human health uses shall be considered as a situation in which the Department may consider other flow conditions.

ADDITIONAL COMMENTS

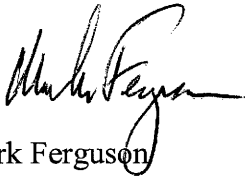
SCANA supports SCDHEC's amendments to R.61-68 with regard to:

- 1) Changing the human health-based water quality standards for arsenic to mirror the Maximum Contaminant Level until the Department has time to evaluate previously submitted information and ongoing research regarding these criteria.

- 2) Removal of the language in Section C.10.a that prohibited mixing zones in state approved source water protection areas.
- 3) Removal of the iron and manganese criteria as non-priority pollutants due to elevated background concentrations.
- 4) The addition of the Biotic Ligand Model for use in developing aquatic life criteria for copper.

SCANA appreciates the opportunity to participate in the triennial review process and hopes that the information presented will assist the Department in updating R.61-68 to ensure that it protects the environment yet is not economically detrimental to the people of South Carolina. If you have any questions regarding this request, please do not hesitate to contact me at (803) 217-8103 or via e-mail at mferguson1@scana.com.

Sincerely,



Mark Ferguson
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SCANA – Environmental Services

cc: T.N. Effinger/S.M. Ferguson/file
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